

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A pressure control system for controlling the pressure of a process fluid stream at a certain location, the pressure control system comprising:

- a. a pressure regulator mounted downstream of an upstream process fluid line, the regulator having a closure member movable between open and closed ~~positions~~ positions for controlling process fluid flow through the fluid line, and a control chamber for housing an actuator fluid for acting on the closure member, wherein the position of the closure member changes in response to changes in the pressure of the actuator fluid housed in the control chamber;
- b. an inspirator having an inlet, an outlet, and a throat between the inlet and outlet, the control chamber of the regulator being in flow communication with the throat of the inspirator;
- c. a primary pilot ~~having a primary valve member valve, including a sense port for receiving a sensed fluid pressure of the process fluid stream, a first target port for inputting a first target pressure, an inlet port for the actuator fluid in fluid communication with the outlet of the inspirator, an outlet port, and a the primary valve member being movable between open and closed positions to controlling the flow of actuator fluid between the inlet and outlet ports thereof and exiting the outlet of the inspirator, the primary pilot having a first target pressure chamber in fluid communication with the target port and a sensed pressure chamber in fluid communication with the sense port, and a linkage mechanism configured to move the position of the primary valve member in response to a~~

- pressure differential between the target and sensed pressure chambers, and wherein the sensed pressure chamber is in fluid communication with a sensing point along the process fluid line at which the pressure of the process fluid is to be controlled;
- d. a secondary pilot ~~having~~valve, including an inlet port connectible to a supply of the actuator fluid, an outlet port, a sense port connected to the outlet port, and a second target port for inputting a second target pressure, a secondary valve member mounted ~~downstream of a~~for controlling the supply of actuator fluid and upstream of ~~to~~ the inspirator inlet and ~~movable between open and closed positons to control the flow of actuator fluid to the inspirator, the secondary pilot having~~ by controlling the flow of the actuator fluid between the inlet and the outlet ports thereof a target pressure chamber and a sensed pressure chamber, in fluid communication with the second target port and the sense port thereof, and a linkage mechanism configured to move the ~~position of the~~ secondary valve member in response to a pressure differential between the target and sensed pressure chambers; and
- e. a target pressure source in fluid communication with the target ports and the target pressure chambers of the primary pilot valve and the secondary pilot valve and adjustable to select a desired pressure to be maintained at the sensing point in the process fluid stream.

Claims 2, 3 and 4 (canceled)

Claim 5 (new) A pressure control system as claimed in claim 1, wherein the inlet port of the secondary pilot valve is adapted for connection to a supply of actuator fluid separate from the process fluid stream.

**Claim 6 (new)** A process control system as claimed in claim 5, wherein the first and second target ports of the primary and secondary pilot valves are adapted for connection to a separate supply of fluid providing a pressure input.

**Claim 7 (new)** A pressure control system as claimed in claim 6, wherein the primary pilot valve comprises a control portion including the target pressure and sensed pressure chambers, and a valve portion including inlet and outlet ports and the primary valve member, and wherein the primary pilot valve includes a diaphragm between the target and sensed pressure chambers.

**Claim 8 (new)** A pressure control system as claimed in claim 7, wherein the primary pilot valve includes a pressure adjustment device for adjusting the pressure applied by the diaphragm.

**Claim 9 (new)** A pressure control system as claimed in claim 7 or 8, wherein the mechanism of the primary pilot valve comprises a lever pivotally mounted to the valve and subject to movement of the diaphragm, and a shaft connected to the lever and to the primary valve member, whereby movement of the diaphragm of the primary pilot valve causes movement of the primary valve member.

**Claim 10 (new)** A pressure control system as claimed in claim 8, wherein the secondary pilot valve includes a diaphragm between the target pressure and sensed pressure chambers.

**Claim 11 (new)** A pressure control system as claimed in claim 10, wherein the secondary pilot valve includes a pressure adjustment spring and a pressure adjustment screw, for adjusting pressure applied to one face of the diaphragm of the secondary pilot valve.

Claim 12 (new) A pressure control system as claimed in claim 1, 9 or 11, wherein the closure member of the pressure regulator comprises a diaphragm.

Claim 13 (new) A pressure control system as claimed in claim 12, wherein the diaphragm of the pressure regulator is mounted substantially vertically.

Claim 14 (new) A pressure control system as claimed in claim 1, 9 or 11, including an input for a target pressure, connected to the first and second target ports of the primary and secondary pilot valves, and including a stabilizing needle valve at least between the target pressure source and the second target port.

**Amendments to the Abstract:**

Please replace the Abstract beginning at page 16 with the following amended Abstract:

A pressure control system for controlling the pressure of a process fluid stream at a certain location, ~~comprising:~~ having a pressure regulator disposed in the process fluid stream, through which the process fluid stream flows; ~~a. A~~ A first pilot controller adapted ~~to senses~~ to sense the pressure of the process fluid at the ~~said~~ location and receives a control pressure from a control source; ~~a . A~~ A second pilot controller adapted ~~to receives same~~ to receive the control pressure from the control source and provides added pressure; ~~an . An~~ An inspirator adapted ~~to receives~~ to receive the added pressure from the second pilot controller and generates a differential pressure; ~~wherein the.~~ wherein the. The differential pressure is used to control the pressure of the process fluid stream within the pressure regulator. The pressure regulator comprises a first chamber and a second chamber therein separated by a flexible element and a divider is disposed in the first chamber and operative to abut against the flexible element to divide the first chamber into separate spaces. Preferably, the pressure regulator is disposed such that the flexible element extends substantially in vertical direction and the divider extends substantially in horizontal direction.